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| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.             | CONFIRMATION NO.            |
|--|-------------|----------------------|---------------------------------|-----------------------------|
| 10/695,932   | 10/29/2003  | Robert Warner        | RDA-0002                        | 7039                        |
| 77845  | 7590        | 02/10/2012           |                                 |                             |
| Goodwin Procter LLP<br>Attn: Patent Administrator<br>135 Commonwealth Drive<br>Menlo Park, CA 94025-1105 |             |                      | EXAMINER<br>YUN, EUGENE         |                             |
|  |             |                      | ART UNIT<br>2618                | PAPER NUMBER                |
|  |             |                      | NOTIFICATION DATE<br>02/10/2012 | DELIVERY MODE<br>ELECTRONIC |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

Patentsv@goodwinprocter.com  
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### Office Action Summary

**Application No.**

10/695,932

**Applicant(s)**

WARNER ET AL.

**Examiner**

EUGENE YUN

**Art Unit**

2618

**Period for Reply** -- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 October 2011.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on \_\_\_\_; the restriction requirement and election have been incorporated into this action.
- 4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 5) ☒ Claim(s) 1,2,4-14 and 16-32 is/are pending in the application.
- 5a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 6) ☒ Claim(s) 1,2,4-14 and 16-24 is/are allowed.
- 7) ☒ Claim(s) 25-32 is/are rejected.
- 8) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 9) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 10) ☐ The specification is objected to by the Examiner.
- 11) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 12) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-800)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_
- Paper No(s)/Mail Date \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 25-32 are rejected under 35 U.S.C. 102(b) as being anticipated by Sandhu et al. (US 6,438,389).

Referring to Claim 25, Sandhu teaches a system for adapting a wireless communication system comprising:

At least one antenna 20 (fig. 5);

At least one RF chain receiving a signal from one of said at least one antennas, said RF chain processing said signal to generate a RF output signal (see col. 5, lines 6-13);

Processing means for processing said RF output signal with one or more processing techniques to provide signal output (see col. 5, lines 41-49); and

means for optimizing performance of said wireless communication system determined from said signal output and optimizing cost for implementing said wireless communication system to support a defined functionality by adapting said wireless communication system (see col. 7, line 62 to col. 8, line 7) through selectively turning on or off one or more of a number of said at least one antennas, a number of said at least one RF chains and a type of said processing techniques (see col. 8, lines 19-27).

Referring to Claim 26, Sandhu also teaches a plurality of said antennas (see 20 in fig. 5) and a plurality of said RF chains and further comprising select RF chain means for dynamically selecting one or more of said RF chains to be used in said adapted wireless network (see col. 5, lines 6-13).

Referring to Claim 27, Sandhu also teaches said select RF chain means selects said one or more RF chains based on power consumption of said defined functionality (see col. 6, lines 18-25).

Referring to Claim 28, Sandhu also teaches said select RF chain means selects said RF chain having the highest receive signal power (see col. 5, lines 41-49).

Referring to Claim 29, Sandhu also teaches a plurality of said antennas and a plurality of said RF chains and further comprising select diversity means for selecting said plurality of antennas (see col. 8, lines 8-14).

Referring to Claim 30, Sandhu also teaches said diversity comprises selection of said plurality of antennas for use in said system (see col. 8, lines 8-14).

Referring to Claim 31, Sandhu also teaches said diversity comprises combining of said plurality of antennas with processing techniques selected from one or more of maximal ratio combining (MRC), equal-gain combining, and minimum mean square error (MMSE) combining (see col. 4, lines 38-41).

Referring to Claim 32, Sandhu also teaches said diversity comprises antenna diversity obtained from said antennas using one or more of spatial diversity, beam diversity, polarization diversity, angular diversity, pattern diversity (see col. 8, lines 8-14).

***Allowable Subject Matter***

3. Claims 1, 2, 4-14, and 16-24 are allowed.

Regarding Claim 1, Sandhu does not teach the combination of:

determining a reference design having a maximum number of antennas of a transmitter or receiver, a maximum number of RF chains at a transmitter or receiver, maximum power consumption and processing techniques for implementing maximum functionality and said reference design is adapted to support said desired functionality; and

adapting the reference design to support said desired functionality at an optimized economic benefit by turning on or off each of the antennas and the RF chains at the transmitter or receiver in the reference design.

Claim 13 is allowable for similar reasons as claim 1.

***Response to Arguments***

4. Applicant's arguments with respect to claims 25-32 have been considered but are moot because the arguments do not apply to any of the references being used in the current rejection.

***Conclusion***

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to EUGENE YUN whose telephone number is (571)272-7860. The examiner can normally be reached on 9:00am-6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay A. Maung can be reached on (571)272-7882. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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